700 Road Forest Habitat Restoration Project

RESTORATION OBJECTIVES

tect water quality
rease structural complexity
rease plant species diversity
rease recruitment rate of large trees
rease number of snags
ate mosaic of different habitat patches

TREE SPECIES

Thin Predominately:

- Douglas-Fir (DF)
- Western Hemlock (WH)

Western Redcedar (WRC) is prevalent on site, so to achieve ecological objectives will thin some of this species

Retain all other species, including noble fir, Pacific silver fir, black cottonwood, red alder

ECOLOGICAL THINNING PRESCRIPTIONS

E1 - Variable Density Thin to maximum of 19" (DF, WH), and 10-17" (WRC); Create 5 gap/skip pairs; Create 4 snags/acre from thinning pool

E2 - Variable Density Thin to maximum of 17"(DF) and 15" (WH, WRC); Create 6 gap/skip pairs; Create 4 snags/acre from thinning pool

E3 - Thin from Above; Variable Density Thin to maximum of 17"(DF, WH, WRC, PSF); Create 12 snags/acre from entire range of trees in unit to create large-diameter snag patch for snag-dependent species and open canopy for understory and structural development

E4 - Variable Density Thin to maximum of 15" (DF), 13" (WH), and 10" (WRC); Create 4 snags/acre from thinning pool

E5 - Variable Density Thin to maximum of 19" (DF) and 11" (WH); Create 4 snags/acre from thinning pool

E6 - Variable Density Thin to maximum of 17" (DF), 14" (WH), and 15" (WRC); Create 4 snags/acre from thinning pool

E7 - Variable Density Thin to maximum of 10" (DF, WH) and 12" (WRC); Create 4 snags/acre from thinning pool

E8 - Thin from Below - Remove all small trees to maximum of 12" (DF, WH), plus half of the 13" WH; Create 1 gap/skip pair; Create 4 snags/acre from thinning pool

DOWN WOOD

Current: Average 5,352 ft^3/acre - all retained on site

OG in CRMW: 62 - 1,460 ft^3/acre

OG in PNW: 3,142-4,624 ft^3/acre

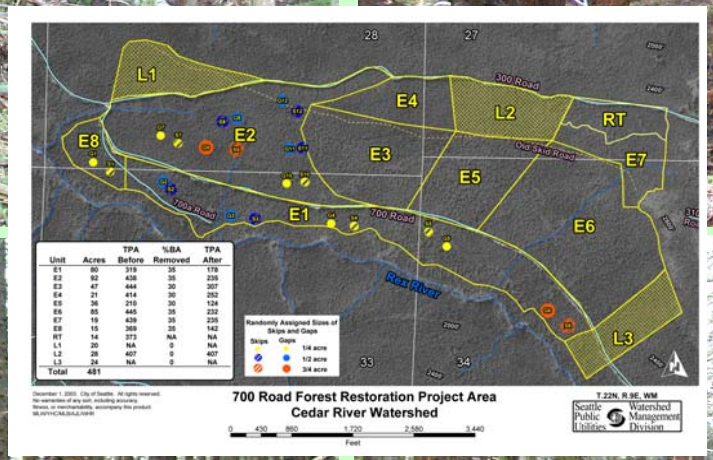
All tree tops and branches from snag creation and thinning left on site

SNAGS

Current: Average 1.7 per acre
Range 0 - 8 per acre

Create: 4 per acre on 7 units (E1, E2, E4-8)
12 per acre on 1 unit (E3)

Sizes and species for snag creation are from the thinning pool, except in E3, where some larger trees will be used to create snags



Unit	Acres	TPA Before	%BA Removed	TPA After
E1	80	319	35	178
E2	92	438	35	235
E3	47	444	30	307
E4	21	414	30	252
E5	36	210	30	124
E6	85	445	35	232
E7	19	439	35	235
E8	15	369	35	142
RT	14	373	NA	NA
L1	20	NA	0	NA
L2	28	407	0	407
L3	24	NA	0	NA
Total	481			

LARGER DIAMETER TREES (>17"DBH)

- None used for snag creation or removed on 10 units (E2, E3, E4, E6, E7, E8, RT, L1, L2, L3)
- Limited number up to 19" dbh used for snag creation or removed on 2 units (E1, E5)
- Very limited number up to 28" used to create snags on 1 unit (E3)
- Over 14,000 trees >17" dbh (average of 36 per acre over the ecological thinning units) will remain on Project Area after thinning.
- Less than 12% of trees >17"dbh in the ecological thinning units will be used for snag creation or removed to enhance light to forest floor, species diversity, and structural development

RIPARIAN AREAS

- One permanent, two ephemeral streams in Project Area
- Enhance Large Woody Debris (one tree per 100 feet) in all streams
- No equipment within 30 feet of all streams
- Logs yarded away from all streams
- Project Area situated upslope of inner gorge slope break, w areas along inner gorge slope break, and potential unstable areas along Rex River

ROADS/ ENGINEERING

- Build no new roads
- Minimize soil disturbance, compaction by using:
  - ➠ Cut-to-length processor, full suspension forwarder on low slope areas
  - ➠ Helicopters, skyline system on higher slope areas

MONITORING

- Vegetation plots: 9 in thinning units, 3 in leave units
- Measure: Trees, snags, down wood, shrubs, herbs
- Gaps: Sample of each size for understory response, seedling regeneration
- Bat use of thinned areas, gaps, and leave areas

RISK MANAGEMENT

- Windthrow - Conservative 30-35% basal area removal; No gaps on steeper slopes
- Cultural Resources - None found in survey; If found during thinning - stop operation an protect site
- Future forest development - Conservative thinning prescriptions; Leave large numbers trees and larger diameter trees
- Monitor treatment and leave areas
- Risks to late-successional-dependent wildlife - Reduced by accelerating late-successio conditions within one mile of existing old-growth habitat and treating a patch size that is relevant to species with a medium home range